STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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March 23, 2006

Mr. Orlando Monaco
Department of Navy
Engineering Field Activity-Northeast
Code 1823/OM
10 Industrial Highway, Mailstop 82
Lester, PA 19113-2090

Re: Site 9, Monitoring Event 26 Report
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco:

The Maine Department of Environmental Protection (MEDEP) has reviewed the draft "Site 9 Monitoring Event 26 Report, April 2005", dated November 2006, prepared by Environmental Chemical Corporation. Based on that review MEDEP has the following comments and issues.

General Comments:

1. The data from recent monitoring and the 2003/2004 Direct Push Investigation indicate there is fairly wide area of impacted groundwater at Site 9. Many of the DPs to the west (i.e., S9-B4,5,6,10, and 11) contained low levels of TCE, PCE, and DCE. S9-B6 and S9-B10 contained TCE levels that were at or near the MEG.

   Trichlorofluoromethane (Freon-11) was detected at 86 µg/L at S9-B3 and was detected at 73 µg/L at MW-NASB-075 during the sampling completed January 2006. This compound is not on the regular reporting list, but should be included to determine if concentrations are widespread, and to ensure they fall under the MEG of 2100 µg/L. It is possible some previous data can be reviewed by the laboratories to check for this compound, if the data files are retained. At a minimum it would help define flowpaths at Site 9.

   In addition, on October 05, 2005, as part of a technical meeting base tour, MEDEP visited the impoundment ponds on Site 9. The upper impoundment pond bottom was orange with what appeared to be iron floc, and associated "mats" floated on the surface. Also, there was an area about 4-5 feet long and a couple feet wide along the bank where the vegetation was black. None of the people on the tour had ever seen the impoundment look like this. On October 21, 2005, MEDEP response staff visited the ponds and took a water sample from the upper impoundment pond. At that time a thin oily sheen was evident on the pond and approximately 14 inches of rain had fallen between the first and second visit. Analysis indicated acetone and 2-butanone. On January 30, 2006 the Navy's consultant sampled Site 9 monitoring wells MW-NAS-B-71, 72, 74, 75, & 75 using low flow sampling. In addition to the know site contaminants for groundwater, Diesel Range Organics (DRO) were also evident. While the Remedial Investigation indicates that acetone and 2-butanone were site contaminants, DRO was not found in the RI nor was DRO analysis performed in the direct push investigation of the ash land fill (2003). Both the source(s) of the contaminants in the pond and the DRO in groundwater are unknown.

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These data indicate a much more extensive diffuse plume than is defined by only considering vinyl chloride, and highlight the need to refine the LTMP locations to better monitor the site. The recent study by USGS on the comparability of diffusion samplers and low-flow methodology, and the results from the recent low-flow compliance monitoring suggests at least a periodic sampling by low-flow rather than diffusion methods is warranted. (RR/MTG)

2. The overall organization and presentation of the data, trend charts and other appendices was logical and consistent with suggested corrections from past reviews. The draft report does have a number of editorial issues that result in contradictory or confusing statements. The data for ME26 are fairly consistent with previous rounds, other than some low detections of TCE, including a low hit at the ash landfill. The ME26 data in conjunction with the 2003 - 2004 direct push study and the recent compliance monitoring support the need for additional monitoring locations, and consideration of methods and target analytes. (RR/MTG)

3. As with all sites at Naval Air Station, the review process would be greatly improved with access to the site data in database form to allow additional comparison of various compounds of interest and historical field and lab parameters. MEDEP is requiring that future data submissions include an electronic version in the MEDEP version 4 electronic data deliverable (EDD). Northeast Laboratories (the lab that performed the ME26 analyses) is familiar with this format and can supply the analytical data to Navy in this format. As always, MEDEP can supply a template of the EDD and additional MEDEP contacts for questions related to using it. MEDEP understands that historical data is still being transferred from EA to Environmental Chemical Corporation (ECC). When that transfer is complete, MEDEP will request a copy of the database, to enable reviewers to easily access trend and statistical data, and incorporate the information into GIS as needed. (RR)

Specific Comments:

4. Section 1.0, para 2: "The Site 9 Long–Term Monitoring Plan (LTMP) (EA, 1996b)..."

   In email, subject heading "Site 9 LTMP Revision" dated November 4, 2005 the Navy stated "ECC is already working on making the appropriate change (s), as well as checking for other changes that were agreed to, but may not have been made. Depending on the extent of the changes, we'll re-issue the appropriate page (s), issue an addendum, or a revised final."

   MEDEP has not heard anything regarding the status of this effort and the change required by MEDEP's email of November 3, 2005 needs to be addressed. If this is the only revision needed then re-issuing the page should be adequate. Once that is done the current LTMP could be utilized barring any changes based on the DRO hit and the issue with the pond as outline in comment 1 above. (RR)

5. Section 1.1, Table 1-2 and Figure 1-3:

   If not already done, the damaged staff gauge should be repaired or replaced prior to the the Spring 2006 monitoring event. The text of Section 1.1 should note the water elevations are estimated in the vicinity of the Lower Impoundment Pond due to the damaged staff gauge. (RR/ED)

6. Section 2.3.1 and Figure 2-1:

Para 1: "*Concentrations of vinyl chloride have generally decreased between 2000 and spring of 2005 with…*"
Para 3:"*…particularly noted at MW-NASB-06, appears to have reached a maximum in 2001…*" (third paragraph)

The statements are contradictory, and Figure 2-1 shows overall vinyl chloride increasing through the end of 2001. MEDEP agrees many of the individual wells appear to have decreasing concentrations, but the site-wide concentrations are still above historical levels from the late 1990s, and the direct push investigations indicate some VOC pathways are inadequately monitored. The site-wide peak concentrations appear to be driven largely by MW-NASB-069. Please revise the statements for consistency. (ED)

7. Table B-1 and Figure 36 and 62, Appendix C:

Trend graphs do not include the values for TCE for the April 2005 round, please revise. (ED)

8. Section 2.3.1, paragraphs 4, 5, and 6, Table B-1:

"*Based on groundwater data collected during historical monitoring events, the vinyl chloride plume at Site 9…*"

MEDEP has previously commented on the lack of a defined "plume" at Site 9, and does not concur that elevated vinyl chloride is limited to the "central portion" of the site, if Navy is referring only to the area around the former ash landfill. The direct push investigations in 2003 and 2004 indicate elevated vinyl chloride is migrating to the vicinity of MW-NASB-076 and the unnamed tributary.

MEDEP agrees the monitoring in this area is inadequate at present, and agrees that at least one well screened near the top of clay, in addition the monitoring well proposed for southwest corner of the site, is needed. An additional comment regarding new monitoring is included in the recommendation responses, if the removal of the former ash landfill proceeds during the 2006 field season, stakeholders should discuss future monitoring at the site. (RR/MTG)

9. Section 2.3.1, bar graphs for MW-NASB-069 and MW-NASB-070, Table B-1, and Appendix C - Figures 17 and 19 :

a.) The shallow and deep vinyl chloride charts do not appear to be updated for April 2005 report, please revise and check the other compounds' charts. (ED)

b.) MEDEP agrees the Manganese (Mn) at MW-NASB-069 appears to be stable and decreasing, however vinyl chloride appears to be quite variable. The peak deep diffusion concentration in Spring 2002 was nearly matched by the spike in the Fall 2004, which does not support a steady decline. The charts should only compare diffusion sampler results, not a mix of low-flow and diffusion sampler data. Based on the trend graphs in Appendix C there have been at most 9 rounds of diffusion data (deep sample). (ED)

10. Table B-2, and Table B-3:

The sample method for MW-NASB-069 (Dup) is given as shallow diffusion rather than low-flow. (ED)

11. Table B-3:

The reported detection limit for Cadmium is 10 times the MCL/MEG of 5 µg/L for MW-NASB-079. Review of the laboratory data sheets suggest this is a typographic error, please confirm and if not, Navy must ensure the laboratory attempts to meet standard detection limits when possible. (RR/ED)

12. Table B-1 and Appendix C, Figure 9:

TCE is not shown as a Total VOC (TVOC) component at MW-NASB-021, despite a 0.88 µg/L hit in ME26. Please correct. (ED)

13. Appendix C, Figure 55:

Benzene is not shown as a TVOC component at MW-NASB-080. Please include along with the other BTEX compounds. (ED)

14. Some other notables from the January 2006 low-flow compliance sampling and Appendix C:

Figures 33 and 36: The TVOC value of about 10 ppb at MW-NASB-074 is the highest value for that location since 1996.

Figures 37-40: For MW-NASB-075, the January 2006 low-flow compliance sampling trichlorofluoromethane (Freon-11) value is the highest VOC value for that location since it was monitored.

Figures 41-44: For MW-NASB-076, the vinyl chloride hit of 1.2 µg/L is the highest VOC value since the last low-flow sampling in 2002.

These data are further support for reconsideration of the LTMP as noted in the final comment. (NR)

15. Section 3.1 Bullet #1:

a.) "At MW-NASB-069, the concentration of vinyl chloride in the shallow diffusion sample has remained stable and returned to average level after increasing during Monitoring Event 25 in the deep diffusion sample."

This sentence is unclear. MEDEP suggests the following language: "*At MW-NASB-069 the concentration of vinyl chloride in the shallow diffusion sample has remained stable over the last four rounds. The deep diffusion sample location returned to historic levels in ME26 after increasing close to its maximum value in ME25.*" (ED)

b.) MEDEP agrees the general location of the plume is understood, but disagrees the objective is currently met, given the limitations described in Section 2.3.1 related to upgradient and downgradient pathways not currently monitored. Stakeholders should discuss what is needed in the upcoming year. (RR)

16. Section 3.1 Bullets #2 and 5:

    MEDEP accepts the conclusion in the context of ME-26, however the observations of heavy floc layer in the pond and dead vegetation at the pond's edge in the fall of 2005 indicate possible limitations to the protectiveness to the environment at present. Continuing observation of conditions at the ponds to check for recurrence of the heavy floc and stressed vegetation are needed. (RR)

17. Section 3.1 Bullet #3:

    "Concentrations of inorganics and semivolatile compounds..."

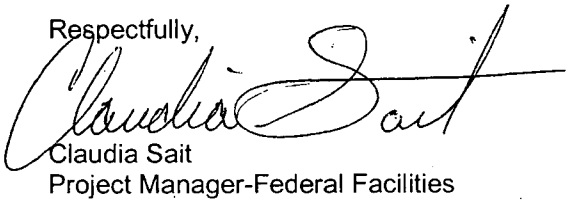
    The concentrations of manganese, aluminum and iron do exceed State MEGs and/or Federal MCL guidance at the downgradient wells. These metals may not be primary contaminants, but the text should be revised to reflect the data presented in the bar graphs in Section 2.3.1 and data in Table B-3. (ED)

18. Section 3.2 Bullet #2:

    a.) MEDEP supports the addition of new monitoring well locations and possibly a revision of sampling methods, based upon the direct-push data from 2003 and 2004, and the recent compliance sampling (January 2006) using low-flow sampling. MEDEP agrees new locations are needed at the southwestern portion of Site 9 near S9-B6 and S9-B10, and in the vicinity of S9-B8. MEDEP does not agree that MW-NASB-076 should be dropped, given the recent detection of vinyl chloride in January 2006. (ED/RR)

Please contact me at (207) 287-7713 or claudia.b.sait@maine.gov, if you have any questions or comments.

Respectfully,



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